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(54) Proinsulin genes with modified C-chain.

(57) Human-like proinsulin gene analogs have been synthesized by a combination of chemical and enzymatic methods. A number of different human-like proinsulin gene analogs with altered C-chains have been designed and can be readily constructed as described. As a part of the strategy, an adaptor for trimming DNA has been used to recover the A-chain insulin gene with the desired sequence from a hybrid plasmid; a related adaptor for trimming DNA has been used to shorten the C-chain gene. The synthetic proinsulin gene has been joined to a replicable cloning vehicle and the hybrid DNA transferred to a host cell. The transformed host cells can be grown under selected conditions to yield the proinsulin analogs.

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EUROPEAN SEARCH REPORT

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Application number

EP 82 30 3071

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
X	NUCLEIC ACIDS RESEARCH, vol. 7, no. 8, 1979, pages 2199-2212, IRL, London (GB); W.L.SUNG et al.: "Synthesis of the human insulin gene. Part II. Further improvements in the modified phosphotriester method and the synthesis of seventeen deoxyribooligonucleotide fragments constituting human insulin chains B and mini-C DNA". *Pages 2200,2204,2205*	1,2,11-13	C 12 N 15/00 C 12 P 21/02 C 07 C 103/52 C 07 H 21/04
D,Y	NUCLEIC ACIDS RESEARCH, vol. 8, no. 23, 1980, pages 5753-5765, IRL, London (GB); H.M.HSIUNG et al.: "Synthesis of the human insulin gene. Part III. Chemical synthesis of 5'-phosphomonoester group containing deoxyribooligonucleotides by the modified phosphotriester method. Its application in the synthesis of seventeen fragments constituting human insulin C-chain DNA". *The whole document*	1,3-9	

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TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

C 12 N 15/00

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	16-03-1983	DELANGHE L.L.M.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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DOCUMENTS CONSIDERED TO BE RELEVANT

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D,A	NUCLEIC ACIDS RESEARCH, Symposium Series, no. 7, Proceedings of the International Symposium on Chemical Synthesis of Nucleic Acids, Held in Egestorf, GFR on 5th-8th May 1980, Edited by H.Köster, IRL Press, August 1980, London (GB); S.A.NARANG et al.: "Synthesis of the human insulin gene. Part IV. New synthetic deoxyribooligonucleotide adaptors and primer for DNA cloning and sequence analysis". *The whole document*	1	
P,A	EP-A-0 040 466 (CANADIAN PATENTS AND DEVELOPMENT LTD.) *Claims 1-77*	1	
E	EP-A-0 055 945 (GENENTECH) *Claims 1-15; page 8, line 8 - page 3, line 8; page 26, line 22 - page 35; line 10*	1,2	

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